

If a static charge is created on an insulator, that charge tends to remain held very nearly in one place and cannot move very far. When there are extra electrons in one location on a conductor, the charge travels throughout the conductor. In this activity, you will investigate how to produce static charge using various materials.

### Safety

- Never eat anything in the science room.

### Materials

- puffed rice cereal
- various solid materials such as plastic straw, comb, plastic ruler, acetate strip, vinyl strip, glass rod, aluminum strip, iron strip, brass strip
- various soft materials such as wool, paper towel, plastic wrap, fur

### What to Do

1. Create a table like the sample table below to record your observations. Substitute the names of the materials your teacher has supplied for the examples shown here.

Solid Material	Soft Material	Number of Puffed Rice Grains Attracted
Plastic straw	Paper towel Wool Nylon cloth	
Glass rod	Paper towel Wool Nylon cloth	
Aluminum strip	Paper towel Wool Nylon cloth	

2. Place a handful of puffed rice cereal in a pile on your desk.
3. Select one of your solid materials. Use one of your soft materials to rub one end of the solid object 10 times. Bring the end that you rubbed in contact with the puffed rice cereal. Slowly lift the object and count how many pieces of cereal stuck to the object. Record this value in your data table.
4. Remove the cereal from the object and return this cereal to your original pile of cereal.
5. Before rubbing this same object with the next soft material, wipe the surface of the object with your bare hand.
6. Repeat steps 3 to 5 until you have completed your data table. Be sure to rub each material in a similar way.
7. Clean up and put away the equipment you have used.

### What Did You Find Out?

1. Which combination of objects attracted the most puffed rice?
2. Why do you think it is important to rub each material in a similar way?
3. What was the purpose of wiping the object with your bare hand before performing the next test?
4. List the solid materials that you think are conductors. What observations did you use in your decision?
5. List the solid materials that you think are insulators. What observations did you use in your decision?